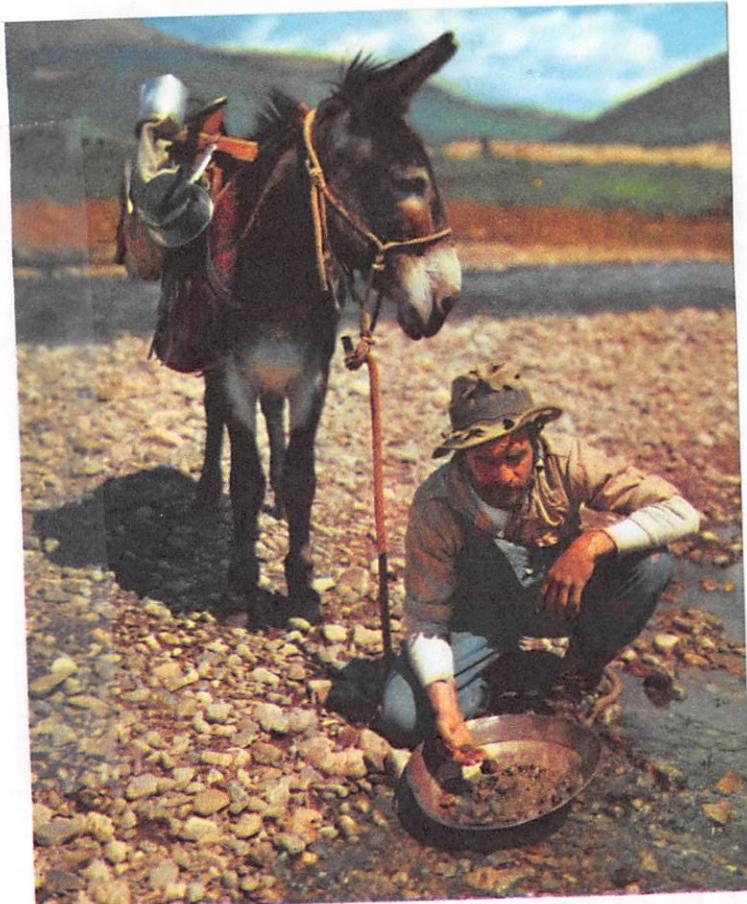
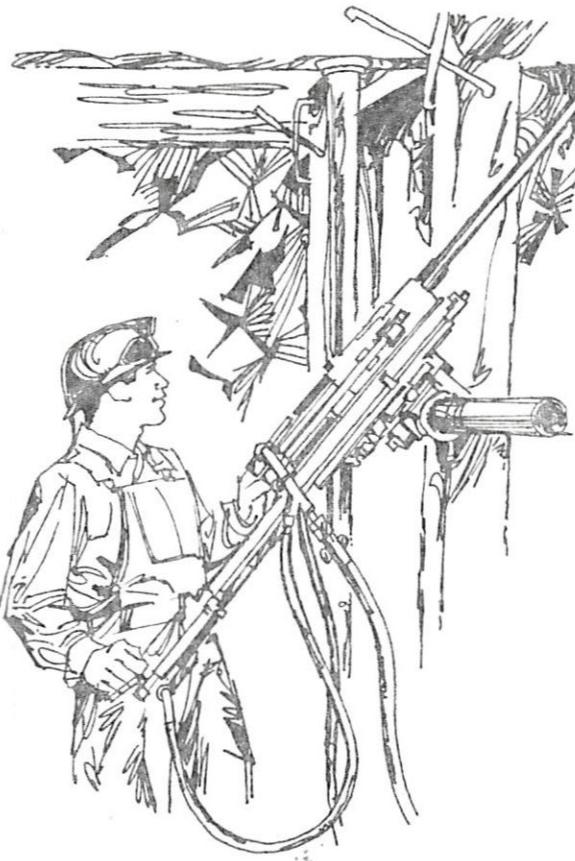


Coal Car 1870s
13.2 Bulk Rate
USA



"Thar's gold in them thar hills." A prospector, lured to the West by tales of riches, pans the bed of a stream.



A miner drills a hole into an ore seam in a Nova Scotia coal mine. When the explosive is detonated, the blast breaks the coal into pieces which can be shoveled into hopper cars. Nova Scotia is Canada's leading coal mining province.



Prospectors use highly sensitive radioactivity detection instruments when searching for uranium. The mineral-rich plateau of northern Canada, the Canadian Shield, covers most of Ontario, and the province has an abundant supply of valuable ores.

Two counterrotating arms crush coal toward the slot. Twin top wedges finish the job. RAPIERS, rear, then wedges for- nels' ceiling until miners insert support bolts.

Waterjets first gouge slot in seam face's center. Bottom wedge then fires jets and drives into the base. RAPIERS walls for- ward to start anew.

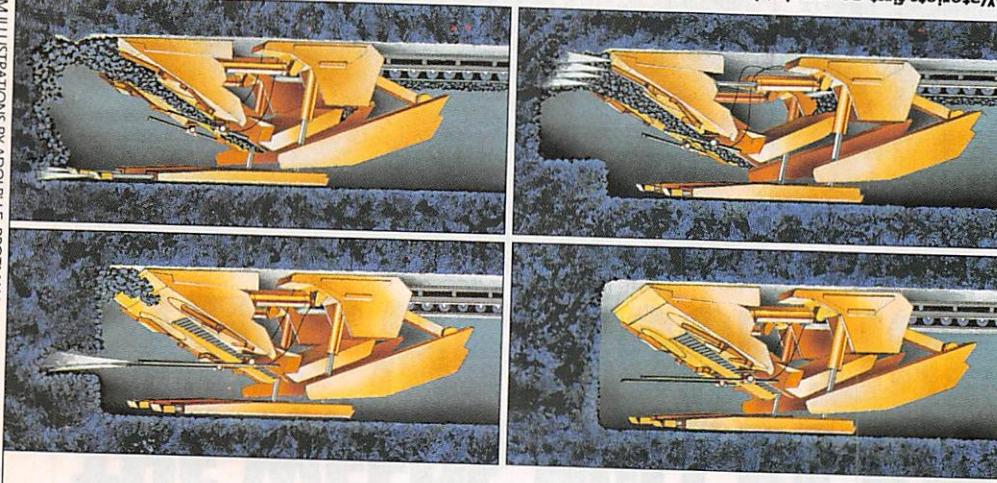
The University of Missouri and NASA's Jet Propulsion Laboratory have teamed to build a prototype.

Two coal pieces onto a conveyor belt. Once both top and bottom wedges have gathered the coal, By dampening the coal, the excavator's rear retract, wedges can shore up the tunnel low. In addition, the top pushed forward, pistons at the top and bottom of the seam's face. Then jets slot the top and bottom of the seam's face curve a horizon- tal slot in the center of the jet-lance carves its way into a coal seam. First, a pair of jets as it suggestion carves high-pressure water- jets instead of swimming a me- chanical pick, RAPIERS instead of swinging a me- tal roof supporter).

Pillar-in-Sem Room And RAPIERS (Room And eliminate both threats. It's radical new machine should mechanized excavators. A even when working with gorous dust and risked cave- ins, coal miners have inhaled dan- gerous dust and risked cave-

ROLLA, MO—For years, coal miners have inhaled dan- gerous dust and risked cave-

Squirt Gun



TECH UPDATE

MAY 1991

In his search for uranium, this young prospector is using a sensitive instrument, much like a Geiger counter.

